

# Notice of Allowability

Application No.

10/790,871

Examiner

James D. Stein

Applicant(s)

TATEIWA, AKIHIKO

Art Unit

2874

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to the amendment filed on 9/23/05.
2. ☒ The allowed claim(s) is/are 1-3 and 5-12.
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☒ All b) ☐ Some\* c) ☐ None of the:
    1. ☒ Certified copies of the priority documents have been received.
    2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.  
**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.
  - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review ( PTO-948) attached
    - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
  - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

## Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date \_\_\_\_\_
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413), Paper No./Mail Date \_\_\_\_\_
7. ☐ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other \_\_\_\_\_

  
John D. Lee  
Primary Examiner

  
James D. Stein  
Patent Examiner, AU2874

### **DETAILED ACTION**

This Office Action is responsive to the amendment filed on 9/23/05, which has been fully considered and entered into the prosecution record. Claim 1 has been amended and claim 4 has been cancelled, leaving claims 1-3 and 5-12 pending in the application.

#### ***Allowable Subject Matter***

Claims 1-3 and 5-12 are allowed.

The following is an examiner's statement of reasons for allowance: None of the prior art or record discloses or suggests: an optical fiber collimator structure comprising: an optical fiber assembly of a plurality of unitary single-mode optical fibers each having a core; a ferrule, the optical fiber assembly being inserted partially into the ferrule and bonded thereto, and supported thereby; the core having a graded index optical fiber bonded to an end face of the core; the graded index optical fiber along with the end portion of the core to which the graded index optical fiber is bonded, being inserted into a hole of a capillary provided at an end of the ferrule, the capillary having a conically shaped end face, at which an end face of the graded index optical fiber is located; and the end face of the graded index optical fiber for emitting or receiving a beam of light, having a tilt angle relative to an optical axis of the optical collimator structure.

As was discussed in the previous Office Action, the Xiaofan reference in view of the Duelli reference do not disclose or suggest the additional limitation of the capillary having a conically shaped end face, at which an end face of the graded index optical fiber is located. In fact, the Xiaofan/Duelli teach away from this feature as can be seen by fig. 1 of Xiaofan, which

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shows the end faces of the GRIN fibers to have a coplanar termination disposed at an angle relative to the longitudinal axis of the device. Applicant has discovered that said conically shaped end face improves the coupling of light from the first GRIN fiber 14a into the second grin fiber 14b after being reflected by mirror 22. Therefore, one of ordinary skill in the art would not have found it obvious or been motivated to modify the invention disclosed by Xiaofan/Duelli, because there is no teaching or suggestion in either of the references that such a modification would be advantageous in any way.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

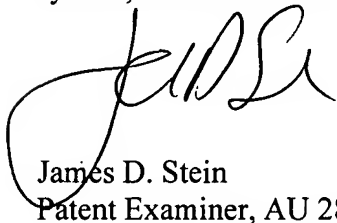
### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to James D. Stein whose telephone number is (571) 272-2132. The examiner can normally be reached on M-F (8:00am-4:30pm).

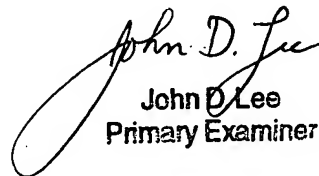
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rodney Bovernick can be reached on (571) 272-2344. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



James D. Stein  
Patent Examiner, AU 2874



John D. Lee  
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